

### **REMARKS**

Claims 15-29 are pending in the application. Claims 15-23 and 29 were rejected under 35 U.S.C. § 103(a) based on U.S. Publication No. 2002/0020800 to Knebel et al. ("Knebel") and U.S. Publication No. 2002/0043622 to Birk et al. ("Birk '622"). Claims 24 and 25 were rejected under 35 U.S.C. § 103(a) based on Knebel, Birk '622 and U.S. Publication No. 2002/0028044 to Birk et al. ("Birk '044"). Claims 26-28 were rejected under 35 U.S.C. § 103(a) based on Knebel, Birk '622 and U.S. Patent No. 6,525,812 to Hartmann et al. ("Hartmann").

Reconsideration of the application in view of the above amendment and the following remarks is respectfully requested.

#### **Rejections Under 35 U.S.C. § 103**

Claims 15-23 and 29 were rejected under 35 U.S.C. § 103(a) based on U.S. Publication No. 2002/0020800 to Knebel et al. ("Knebel") and U.S. Publication No. 2002/0043622 to Birk et al. ("Birk '622"). Claims 24 and 25 were rejected under 35 U.S.C. § 103(a) based on Knebel, Birk '622 and U.S. Publication No. 2002/0028044 to Birk et al. ("Birk '044"). Claims 26-28 were rejected under 35 U.S.C. § 103(a) based on Knebel, Birk '622 and U.S. Patent No. 6,525,812 to Hartmann et al. ("Hartmann").

Knebel describes a device with two first light sources 3, 4 used to illuminate an object and a second light source 8 used to manipulate the object. See Knebel paragraph [0054]. The illumination and manipulation light may be input with a spectrally selective device including an acousto-optical filter or beam splitter. See Knebel paragraph [0032].

Birk '622 describes an optical waveguide element 3 for transporting light from a laser 1 to an objective 12, which focuses the light onto a sample 13. See Birk '622, Abstract.

Birk '044 describes an instrument for microscopy and the use of a  $\lambda/2$  plate to rotate the polarization plane. See Birk '044, paragraph [0039]

Hartmann describes an optical arrangement with a spectrally selective element 2 and an optical component 8 that makes light beams emerging from the spectrally selective element 2 as parallel as possible. See Hartmann, column 6, lines 11-26.

Independent claim 15 of the present application has now been amended so as to recite:

- an acousto-optical element configured to spatially split a sub-light beam from the illuminating light beam and adjust an optical power of the illuminating light beam so as to provide an adjusted illuminating light beam;
- a beam deflection device configured to scan the adjusted illuminating light beam over or through a sample; and
- a beam guiding device configured to direct the sub-light beam split by the acousto-optical element onto the sample so as to manipulate the sample.

Support for this amendment may be found, for example, at paragraph [0028] of the Specification. Thus, as recited in claim 15, the sub-light beam configured to manipulate the sample and the adjusted illuminating light beam are both formed by the same acousto-optical element and are both directed, or scanned, onto the sample. Accordingly, as discussed in paragraphs [0009]-[0011] of the Specification, the sample can be independently and simultaneously both observed and manipulated using light from a same illumination light beam.

It is respectfully submitted that any combination of Knebel, Birk '622, Birk '044 and Hartmann, to the extent proper, would not render amended independent claim 15 obvious. The cited references, either alone or in combination, fail to teach or suggest directing a sub-light beam that is split by an acousto-optical element from an illuminating light beam onto a sample so as to manipulate the sample and scanning an adjusted illuminating light beam provided by the same acousto-optical element from the same illuminating light beam onto the sample. In contrast, Knebel describes that "*at least one spectrally selective element is provided to input the illumination and/or manipulation light*" (emphasis added). See Knebel, paragraph [0032]. However, Knebel does not disclose that a single acousto-optical element forms both an adjusted illuminating light beam and a split light beam for manipulation from a single light beam, which are both directed to or scanned on a sample. In contrast, Knebel describes illuminating light sources 3, 4 that are separate from a manipulation light source 8. Thus, Knebel does not imply or suggest the above-recited features of claim 15.

With respect to Birk '622, Birk '044 and Hartmann, these references, taken either alone or in combination with Knebel would not suggest directing a sub-light beam split by an

acousto-optical element from an illuminating light beam onto a sample so as to manipulate the sample, and scanning an adjusted illuminating light beam formed by the same acousto-optical element from the same illuminating light beam onto the sample, as recited in independent claim 15. None of the cited references disclose any acousto-optical element that forms a manipulating sub-light beam and an adjusted light beam which are both directed to a sample. Further, it is respectfully submitted that there would have been no reason to modify Knebel or the other cited references to include the above-recited features of claim 15. Each of Birk '622, Birk '044 and Hartmann fail to teach or suggest more than one light beam directed to a sample. Thus, there would be no reason to modify these references, or to modify Knebel in view of these references, to include an acousto-optical element that forms a manipulating sub-light beam and an adjusted light beam which are both directed to a sample, as required by claim 15.

Because the Knebel, Birk '622, Birk '044 and Hartmann, either alone or in combination, fail to teach or suggest the above-recited features of amended independent claim 15, it is respectfully submitted that any combination of these references, to the extent proper could not render claim 15 or its dependent claims 16-29 obvious. Reconsideration and withdrawal of the rejection of claims 15-23 and 29 under 35 U.S.C. § 103(a) based on Knebel in view of Birk '622, claims 24 and 25 under 35 U.S.C. § 103(a) based on Knebel, Birk '622 and Birk '044 and claims 26-28 under 35 U.S.C. § 103(a) based on Knebel, Birk '622 and Hartmann is respectfully requested.

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**CONCLUSION**

In view of the above amendment, applicants believe the pending application is in condition for allowance.

The Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this submission, including any additional filing or application processing fees required under 37 C.F.R. §1.16 or 1.17, or to credit any overpayment, to Deposit Account No. 04-0100.

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Respectfully submitted,

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